Commonwealth of Kentucky
Division for Air Quality

REVISED PERMIT STATEMENT OF BASIS

Proposed
Title V, Operating
Permit: V-08-040
Cooper Standard Automotive
Mt Sterling, KY 40353
March 4, 2009
Elizabeth KM Carrier, Reviewer

SOURCE ID:	21-173-00030
AGENCY INTEREST:	39374
ACTIVITY:	APE20080002

SOURCE DESCRIPTION:

On June 10, 2008 Cooper Standard Automotive Mt Sterling Plant (CSA) submitted an application for the renewal of their Title V/Synthetic Minor permit, V-03-041 R4. Supplemental information was received on August 5, September 4 and October 22nd, 2008 and the application was considered complete on November 17, 2008. CSA currently operates two (2) boilers with a total heat input capacity of 25.2 MMBtu/hr at their facility. The plant produces automotive reinforced rubber hose in various diameters, lengths, and shapes. The main raw materials involved in hose production are rubber and reinforcing yarn. Secondary raw materials include adhesive and lubricant. The processes involved in reinforced rubber hose production include the extrusion of rubber on the Knit/Spiral Hose Lines #1, #2, and #3, printer stations for the customer, adhesive application operations, rubber curing in the Autoclaves, and the hose finishing operations.

CSA has applied for the addition of a third natural gas boiler with heat input capacity of 12.6 MMBtu/hr. CSA will no longer be using the #2 fuel oil as a secondary fuel in any of the boilers. In the renewal application, CSA has updated the potential carbon disulfide (CS_2) emission calculation from the autoclaves based on stack test emissions from their Cooper Standard Automotive Bowling Green plant. Additionally in this process, the rubber extrusion operation precedes the autoclaves and the autoclaves can process no more than the rubber extruders produce. Potential carbon disulfide emission values were calculated using the maximum production rate from the rubber extruder.

Included in the renewal application, CSA has removed the trimethylbenzene and isophorone emissions from potentials because the EPA has deleted those factors from the submitted, industry-provided information prior to issuing AP-42 factors. CSA is a major source for Volatile Organic Compounds (VOCs). A majority of their VOCs come from the emission of carbon disulfide. CSA has also requested to change their permit status from a Title V/Synthetic Minor to a Title V, based on the revised emission calculations

CSA requests removal of the following items from their list of insignificant activities:
SN-18 and 19 Two cold cleaning degreasers (parts washers)
Multi-Layer Plastic Tubing Line 1 & 2
Hot air blower #1.
Conveyor.
Rubber Mill

COMMENTS:

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers, applicable to an emissions unit with a capacity of less than 250 MMBtu/hr which commenced on or after April 9, 1972.
401 KAR 50:045. Performance tests.
401 KAR 63:021, Existing Sources emitting toxic air pollutants

SIGNIFICANT ACTIVITIES:

Emissions Units: 01, 02 & 03 (SN-1, 2 & 3-3) Three New Indirect Heat Exchangers:
Three (3) Natural Gas fired Boilers. Each have a heat input capacity of 12.6 MMBtu/hr. Steam generated by the indirect heat exchangers is used to cure the rubber reinforced hoses.

Pursuant to **401 KAR 59:015, Section 4(1)(c)** particulate emissions shall not exceed 0.41 lb/MMBtu.

Pursuant to **401 KAR 59:015, Section 4(2)**, emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of forty (40) percent opacity for not more than six (6) consecutive minutes in any sixty (60) consecutive minutes during cleaning the firebox or blowing soot.

Pursuant to **401 KAR 59:015, Section 4(2)(c)**, for emissions shall not exceed 20% opacity based on a six minute average, except for emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating condition, provided the method used is the recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Pursuant to **401 KAR 59:015, Section 5(1)(c)**, the sulfur dioxide emission rate shall not exceed 1.74 lbs/MMBtu.

Pursuant to **401 KAR 52:020, Section 26**, permittee shall monitor and maintain records of the ink used (recording the name, density, weight fraction organic, and monthly amount used), and hours of operation on monthly basis.

Emissions Units: 04, 05, and 06 (SN-4, 5, & 6) Knit/spiral Hose Extrusion Lines 1, 2 & 3:
Rubber is produced at other facilities and received at the plant in layered sheets on skids. The rubber is fed into an extruder, which extrudes it in the form of a tube for the inner core of the hose. The core is cooled in a cooling bath. Then, reinforcing yarn is applied to the core in the required pattern. Following reinforcing, rubber is extruded over the reinforced core in the form of the outer hose casing. These units emit VOCs and HAPs including toluene, methylene chloride and acetophenone.

Pursuant to **401 KAR 52:020 Section 26**, the maximum usage rate of ink in the printer station shall not exceed 0.1 gallon per hour (each line). Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020 Section 26**, the maximum emission rate of volatile organic compounds shall not exceed 20.88 pound per day for printer station operations (with ink usage).
Pursuant to **401 KAR 52:020, Section 26**, permittee shall monitor and maintain records of the ink used (recording the name, density, weight fraction organic, and monthly amount used), and hours of operation on monthly basis.

Emissions Unit: 07 (SN-4, 5, 6 & 7) -Off-line hose reinforcing operation and all Stoddard solvent application operations:

In order for the outer casing to properly adhere to the hose core, many hose products require a Stoddard solvent coating to be applied to the reinforced core prior to the extrusion of the outer cover. The solvent is applied in a tank that serves as a reservoir. The solvent is pumped from the reservoir over the hose as it passes through the tank and back into the reservoir. A separate but adjacent vacuum system removes excess solvent prior to extrusion of the outer casing. For some products, the reinforcing operation is completed off-line. In this case, after the core is extruded from one of the three lines, it is moved to an off-line reinforcing machine. After the hose is reinforced, it is returned to the solvent application operation on one of the three lines. From there, the outer rubber casing is extruded.

Pursuant to **401 KAR 52:020, Section 26**, the maximum usage rate of solvents in all of the adhesive application operations (SN-4, SN-5, SN-6, SN-7) shall not exceed 2460 gallons per month, total. Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020, Section 26**, the maximum emission rate of volatile organic compounds shall not exceed 8.34 tons per month, total, for all the adhesive application operations (SN-4, SN-5, SN-6, SN-7).

Pursuant to **401 KAR 52:020, Section 26**, permittee shall monitor and maintain records of the solvents used (recording the name, density, weight fraction organic, and monthly amount used), and hours of operation on monthly basis.

Emissions Units: 09 - 16 (SN-9 through SN-16) - Eight Autoclaves:

Rubber hose from the extrusion process is cured in one of several steam autoclaves. Curing involves the vulcanization or cross-linking of the rubber compound. Prior to curing, the cut hoses are placed on steel mandrels or in aluminum tubing that are shaped to the desired product profile. In order to facilitate the manual loading process of the hoses on the mandrels or in the tubing, the hose is dipped in a lubricant prior to loading. The mandrels or tubing are placed in an autoclave. The autoclave will typically cycle three times per hour. At the conclusion of the cycle, the cured hose is removed from the mandrels or tubing and transported to the hose wash area. The hoses are placed in baskets and run through a wash to remove lubricant. Over a period of time, a residue will build up on the mandrels. A Paralytic Oven is used to remove the residue. These units emit VOCs and HAPs including carbon disulfide, benzene and carbonyl sulfide. These units have the largest carbon disulfide emissions, 7.12 tons per year, from this source.

Pursuant to **401 KAR 52:020, Section 26**, the maximum processing rate of rubber shall not exceed 1200 pounds per hour for each autoclave. Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020, Section 26**, the maximum emission rate of volatile organic compounds shall not exceed 0.53 pound per hour for all eight autoclaves, total.

Pursuant to **401 KAR 52:045**, within 180 days after initial startup of the units, the permittee shall conduct a performance test for each unit for PM emissions, using EPA Reference Method 5B or 17. This performance test shall be performed concurrently with two emission units running, and the testing shall be conducted under conditions representative of maximum emissions potential under

anticipated operating conditions at the pollutant-specific emissions unit.

Pursuant to **401 KAR 52:020, Section 26**, permittee shall monitor and maintain records of the rubber processed and hours of operation on monthly basis.

Emissions Unit: 23 (SN-23) - Hose Finishing Operations:
This involves performing final cuts on the hose and assembling hoses which may include using diradia presses, metal tube benders, brazing equipment, crimping equipment, clamp glue pods, and assembly test equipment. In addition, clamps, fittings and the customer identifying marks are applied to the hose. These operations may involve the use of small quantities of glue and marking inks. A Parts Washer is used to clean the ink marking equipment. The finished hoses are then packaged and stored in a warehouse until transported to the market. This unit emits VOCs and HAPs including hexane.

Pursuant to **401 KAR 52:020, Section 26**, the maximum usage rate of adhesive shall not exceed 58 gallons per month. Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020, Section 26**, the maximum usage rate of solvent shall not exceed 610 gallons per month. Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020, Section 26**, the maximum usage rate of ink in the printer stations shall not exceed 30 gallons per month. Compliance with maximum processing rate shall be in compliance with 63:021.

Pursuant to **401 KAR 52:020, Section 26**, permittee must monitor and maintain records of the adhesive, solvent, and ink used (recording the name, density, percent volatile organic, and amount used for each adhesive, solvent, and ink) on a monthly basis.

EMISSION AND OPERATING CAPS DESCRIPTIONS:
State-only requirement: in accordance with 401 KAR 63:021, existing sources emitting toxic air pollutants, the source wide emissions of carbon disulfide shall not exceed 48.6 pounds per hour. Permittee shall maintain records of materials containing the above constituents and hours of operation on a monthly basis.

PERIODIC MONITORING:
None

OPERATIONAL FLEXIBILITY:
None

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.